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EXAMINER

JAGAN, MIRELLYS

ART UNIT	PAPER NUMBER
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2859

DATE MAILED: 03/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/659,999

Applicant(s)

HOLLANDER ET AL.

Examiner

Mirellys Jagan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/11/03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 49-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 49-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 9/11/03 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/11/03.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 9/11/04 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to in Photonics Spectra, the Teledyne Brown brochure, and the English Translation therein has not been considered.

Specification

2. The amendment filed 9/11/03 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows:

The light intensity distribution including a "0 order spot" at the center, and the optical means being a "diffraction beam splitter" (see page 7). The original disclosure states that there is a spot in the center of the display, but fails to teach a '0 order' center spot. Furthermore, the original disclosure discloses that the optical means is a beam splitter, or a diffraction device such as a grating or holographic component, but does not disclose the optical means being a diffraction beam splitter. Applicant is required to cancel the new matter in the reply to this Office action.

Furthermore, it is not clear whether line 15 of page 6 has been amended or if there is a typographical error.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the diffraction lens of claims 56-59 and the optical imaging system of claims 54 and 60 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 54, 56-60, 62, and 65 are objected to because of the following informalities:

In claims 54, 60, and 62, there is lack of antecedent basis in the disclosure for the device having an optical system/means for imaging radiation onto the detector.

In claims 56-59, there is lack of antecedent basis in the specification for the use of a “diffraction lens”. The specification states that the optical means is a beam splitter, or a diffraction device such as a grating or holographic component, but does not disclose the optical means being a diffractive lens.

Furthermore, the preamble of claims 56-59 is objected to since the preamble does not correspond to the preamble of the respective base claims.

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Claim 65 is objected to since it appears to be stating that the optical means displays a second central laser spot in addition to the central laser spot claimed in claim 51. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 54, 56-60, 62, and 63 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 54 claims an “optical system for imaging heat radiation emanating from the measurement spot onto the detector”, claim 60 claims “means for imaging the heat radiation, emanating from the area, onto the detector”, claims 56-59 each claim that the optical means is a “diffraction lens”, and claim 62 claims an “optical system for imaging heat radiation emanating from the measurement spot onto the detector” and that the intensity distribution includes a “0 order spot” at the center, which is subject matter that was not described in the original specification to reasonably convey to one skilled in the relevant art that the inventor had possession of the claimed invention at the time the application was filed.

Claim 63 is rejected for being dependent on rejected base claim 62.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 49 and 56 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of U.S. Patent No. 5,368,392 [hereinafter the '392 patent] in view of claim 3 of U.S. Patent 6,540,398 [hereinafter the '398 patent] and German Patent 19528590 to Schmidt et al [hereinafter Schmidt].

Claim 13 of the '392 patent claims a laser sighting device (i.e., a laser aiming system) for use in conjunction with a radiometer (which is an IR radiation detector) for visibly outlining the energy zone (i.e., target area) on a surface whose temperature is to be measured by the radiometer (by detecting radiation from the surface). The laser sighting device cooperates with the radiometer and emits more than two laser beams (which is a laser light distribution pattern) against the surface. The laser sighting device uses a beam splitter (which is an optical means) that receives (is illuminated by) the laser beam (one beam) and splits the laser beam into the more than two laser beams and positions the more than two laser beams about the energy zone to

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visibly outline the periphery of the energy zone (i.e., the beam splitter produces at least two laser light spots at the edge of the area) to be measured by the radiometer.

Claim 13 does not claim the laser sighting device and the radiometer being in a hand-held common support, the optical means also converting the laser beam into a spot of laser light at the center of the zone, and the sighting device using a diffractive lens.

Claim 3 of the '398 patent claims a device for measuring temperature comprising a laser sighting device and a radiometer together in a hand-held common support.

Schmidt discloses a laser thermometer device comprising an IR detector, an optical system, and a sighting arrangement comprising a laser and a diffraction optical system having a diffraction optical lens that splits a beam and is aligned to be illuminated by a single laser beam from the laser to emit more than two divergent beams to produce a pattern on the measurement spot in the form of a light intensity distribution which includes a 0th order spot at the center of the measurement spot and a visible laser ring of spaced apart light spots displaced from the center point, a beam splitter positioning the circle for identifying and outlining the position, size, and edge of the field of view on the measurement spot by display of visible light including the center spot of the measurement spot to facilitate sighting.

Referring to claim 49, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the laser sighting device and the radiometer are in a hand-held common support, as claimed in claim 3, since claim 3 teaches that a laser sighting device and a radiometer can be combined in a common support to be used in a hand-held manner in order to facilitate marking and measuring the temperature of a surface.

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Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the optical means also converts the laser beam into a spot of laser light at the center of the zone, as taught by Schmidt, since Schmidt teaches that it is useful to mark the center spot of the measurement spot to facilitate sighting.

Referring to claim 56, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13/claim 3/ Schmidt by claiming that the sighting device uses a diffractive lens instead of the splitter, since Schmidt teaches that it is useful to utilize a diffractive lens to create the laser beam pattern.

9. Claim 50 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of the '392 patent in view of claim 3 of the '398 patent.

Claim 13 of the '392 patent claims a laser sighting device (i.e., a laser aiming system) for use in conjunction with a radiometer (which is an IR radiation detector) for visibly outlining the energy zone (i.e., target area) on a surface whose temperature is to be measured by the radiometer (by detecting radiation from the surface). The laser sighting device cooperates with the radiometer and emits more than two laser beams (which is a laser light distribution pattern) against the surface. The laser sighting device uses a beam splitter (which is an optical means) that receives (is illuminated by) the laser beam (one beam) and splits the laser beam into the more than two laser beams and positions the more than two laser beams about the energy zone to

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visibly outline the periphery of the energy zone (i.e., the beam splitter produces at least two laser light spots at the edge of the area) to be measured by the radiometer.

Claim 13 does not claim the laser sighting device and the radiometer being in a hand-held common support, and the optical means indicating the 'location and size' of the energy zone.

Claim 3 of the '398 patent claims a device for measuring temperature comprising a laser sighting device and a radiometer together in a hand-held common support.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the laser sighting device and the radiometer are in a hand-held common support, as claimed in claim 3, since claim 3 teaches that a laser sighting device and a radiometer can be combined in a common support to be used in a hand-held manner in order to facilitate marking and measuring the temperature of a surface.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the optical means indicates the 'location and size' of the energy zone since the 'periphery' of the energy zone that is visibly outlined on the surface also inherently indicates the location and size of the energy zone from which the temperature is measured by the radiometer.

10. Claims 51, 52, 58, 59, and 65 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of the '392 patent in view of claim 3 of the '398 patent and Schmidt.

Claim 13 of the '392 patent claims a laser sighting device (i.e., a laser aiming system) for use in conjunction with a radiometer (which is an IR radiation detector) for visibly outlining the

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energy zone on a surface whose temperature is to be measured by the radiometer. The laser sighting device cooperates with the radiometer and emits more than two laser beams against the surface (which forms a pattern of laser light spots). The laser sighting device uses a splitter (which is an optical means) that receives (is illuminated by) a laser beam and splits the laser beam into the more than two laser beams and positions the more than two laser beams about the energy zone to visibly outline the periphery of the energy zone to be measured by the radiometer.

Referring to claims 51 and 58, claim 13 does not claim the laser sighting device and the radiometer being in a hand-held common support, the radiometer having a field of view, the laser beams identifying the location and the size of the zone, the splitter also displaying a central laser spot, and the sighting device using a diffractive lens.

Referring to claim 52 and 59, claim 13 does not claim the laser sighting device and the radiometer being in a hand-held common support, the laser beams being in a concentric pattern, the laser beams identifying the edge, location, center, and the size of the zone, and the sighting device using a diffractive lens.

Referring to claim 65, claim 13 does not claim the beams also displaying a spot at the center of the zone within the field of view.

Claim 3 of the '398 patent claims a device for measuring temperature comprising a laser sighting device and a radiometer together in a hand-held common support.

Schmidt discloses a laser thermometer device comprising an IR detector, an optical system, and a sighting arrangement comprising a laser and a diffraction optical system having a diffraction optical lens that splits a beam and is aligned to be illuminated by a single laser beam from the laser to emit more than two divergent beams to produce a concentric pattern on the

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measurement spot in the form of a light intensity distribution which includes a 0th order spot at the center of the measurement spot and a visible laser ring of spaced apart light spots displaced from the center point, a beam splitter positioning the circle for identifying and outlining the position, size, and edge of the field of view on the measurement spot by display of visible light including the center spot of the measurement spot to facilitate sighting.

Referring to claim 51, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the laser sighting device and the radiometer are in a hand-held common support, as claimed in claim 3, since claim 3 teaches that a laser sighting device and a radiometer can be combined in a common support to be used in a hand-held manner in order to facilitate marking and measuring the temperature of a surface.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the radiometer has a field of view since all radiometers have a field of view.

In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the beams indicates the 'location and size' of the energy zone since the 'periphery' of the energy zone that is visibly outlined on the surface also inherently indicates the location and size of the energy zone from which the temperature is measured by the radiometer.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the optical means also converts the laser beam into a spot of laser light at the center of the zone, as taught by Schmidt, since

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Schmidt teaches that it is useful to mark the center spot of the measurement spot to facilitate sighting.

Referring to claim 52, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the laser sighting device and the radiometer are in a hand-held common support, as claimed in claim 3, since claim 3 teaches that a laser sighting device and a radiometer can be combined in a common support to be used in a hand-held manner in order to facilitate marking and measuring the temperature of a surface.

In addition, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the beams indicate the edge, location, and size of the zone since the ‘periphery’ of the energy zone that is visibly outlined on the surface also inherently indicates the edge, location, and size of the energy zone from which the temperature is measured by the radiometer.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the laser beams indicate the center of the zone, as taught by Schmidt, since Schmidt teaches that it is useful to make the beams concentric and to mark the center spot of the measurement spot to facilitate sighting.

Referring to claims 58 and 59, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13/claim 3/ Schmidt by claiming that the sighting device uses a diffractive lens instead of the splitter, since Schmidt teaches that it is useful to utilize a diffractive lens to create the laser beam pattern.

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Referring to claim 65, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13/claim 3/ Schmidt by claiming that the beams also displaying a spot at the center of the zone within the field of view, as taught by Schmidt, since Schmidt teaches that it is useful to mark the center spot of zone to facilitate sighting.

11. Claims 53-55 and 60-63 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of the '392 patent in view of Schmidt.

Claim 13 of the '392 patent claims a laser sighting device (i.e., a laser sighting arrangement which has a laser) for use in conjunction with a radiometer (which is a radiation detector) for visibly outlining the energy zone on a surface whose temperature is to be measured by the radiometer. The laser sighting device cooperates with the radiometer and emits more than two laser beams against the surface (which forms a pattern of laser light spots). The laser sighting device uses a splitter that receives (is illuminated by) a laser beam and splits the laser beam into the more than two laser beams and positions the more than two laser beams about the energy zone to visibly outline the periphery of the energy zone to be measured by the radiometer.

Referring to claim 53, claim 13 does not claim the beams forming a point at the center of the zone and a circle displaced from the center point identifying and outlining the position and the size of the zone.

Referring to claim 54, claim 13 does not claim the apparatus having an optical system for imaging heat radiation emanating from the zone onto the detector, and the beams forming a point

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at the center of the zone and a circle displaced from the center point identifying and outlining the location and the size of the zone.

Referring to claim 55, claim 13 does not claim the detector having a field of view, the beams being divergent, and the beams indicating the center of the zone.

Referring to claims 60 and 61, claim 13 does not claim the apparatus having means for imaging heat radiation emanating from the zone onto the detector, and the beams forming a spot at the center of the zone and a ring displaced from the center.

Referring to claims 62 and 63, claim 13 does not claim the apparatus having an optical system for imaging heat radiation emanating from the zone onto the detector, the sighting device using a diffractive optical element, the beams including a 0 order spot about the center of the zone and at least two spots displaced from the center.

Schmidt discloses a laser thermometer device comprising an IR detector, an optical system, and a sighting arrangement comprising a laser and a diffraction optical system having a diffraction optical element that splits a beam and is aligned to be illuminated by a single laser beam from the laser to emit more than two divergent beams to produce a concentric pattern on the measurement spot in the form of a light intensity distribution which includes a 0th order spot at the center of the measurement spot and a visible laser ring of spaced apart light spots displaced from the center point, a beam splitter positioning the circle for identifying and outlining the position, size, and edge of the field of view on the measurement spot by display of visible light including the center spot of the measurement spot to facilitate sighting.

Referring to claim 53, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the beams form a point

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at the center of the zone and a circle displaced from the center point, as taught by Schmidt, since Schmidt teaches that it is useful to make the beams as a circle displaced from a center point to facilitate sighting.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the beams identify and outline the position and the size of the zone since the 'periphery' of the energy zone that is visibly outlined on the surface also inherently identifies and outlines the position and the size of the zone from which the temperature is measured by the radiometer.

Referring to claim 54, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the apparatus has an optical system for imaging heat radiation emanating from the zone onto the detector, and that the beams form a point at the center of the zone and a circle displaced from the center point, as taught by Schmidt, since Schmidt teaches that it is useful to use an optical imaging system to direct the radiation to the detector, and since Schmidt teaches that it is useful to make the beams as a circle displaced from a center point to facilitate sighting.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the beams identify and outline the location and the size of the zone since the 'periphery' of the energy zone that is visibly outlined on the surface also inherently identifies and outlines the location and the size of the zone from which the temperature is measured by the radiometer.

Referring to claim 55, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the beams are divergent

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and indicate the center of the zone, as taught by Schmidt, since Schmidt teaches that it is useful to make the beams are divergent and indicate the center of the zone to facilitate sighting.

Furthermore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the radiometer has a field of view since all radiometers have a field of view.

Referring to claim 60, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the apparatus has means for imaging heat radiation emanating from the zone onto the detector, and that the beams form a spot at the center of the zone and a ring displaced from the center point, as taught by Schmidt, since Schmidt teaches that it is useful to use means to direct the radiation to the detector, and since Schmidt teaches that it is useful to make the beams as a ring displaced from a center point to facilitate sighting.

Referring to claim 62, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the apparatus has an optical system for imaging heat radiation emanating from the zone onto the detector, and that the beams form a 0 order spot at the center of the zone and a at least two spots displaced from the center, as taught by Schmidt, since Schmidt teaches that it is useful to use means to direct the radiation to the detector, and since Schmidt teaches that it is useful to make the beams as at least two beams displaced from a center 0 order spot to facilitate sighting.

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12. Claims 57 and 64 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of the '392 patent and claim 3 of the '398 patent, as applied to claim 50 above, and further in view of Schmidt.

Claims 13 and 3 claim an instrument having all of the limitations of claims 57 and 64, as stated above in paragraph 9, except for the sighting device using a diffractive lens, and the beams emitting a spot of light at the center of the zone.

Schmidt discloses a laser thermometer device comprising an IR detector, an optical system, and a sighting arrangement comprising a laser and a diffraction optical system having a diffraction optical lens that splits a beam and is aligned to be illuminated by a single laser beam from the laser to emit more than two divergent beams to produce a pattern on the measurement spot in the form of a light intensity distribution which includes a 0th order spot at the center of the measurement spot and a visible laser ring of spaced apart light spots displaced from the center point, a beam splitter positioning the circle for identifying and outlining the position, size, and edge of the field of view on the measurement spot by display of visible light including the center spot of the measurement spot to facilitate sighting.

Referring to claim 57, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13/claim 3 by claiming that the sighting device uses a diffractive lens instead of the splitter, since Schmidt teaches that it is useful to utilize a diffractive lens to create the laser beam pattern.

Referring to claim 64, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13/claim 3 by claiming that the beams also

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form a spot at the center of the zone, as taught by Schmidt, since Schmidt teaches that it is useful to make the beams also form a spot at the center of the zone to facilitate sighting.

13. Claim 66 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of the '392 patent.

Claim 13 of the '392 patent claims a laser sighting device (i.e., a laser aiming system) for use in conjunction with a radiometer (which is a radiation detector) for visibly outlining the energy zone on a surface whose temperature is to be measured by the radiometer. The laser sighting device cooperates with the radiometer and emits more than two laser beams against the surface (which forms a light intensity distribution pattern of laser light spots). The laser sighting device uses a splitter (which is an optical means) that receives (is illuminated by) a laser beam and splits the laser beam into the more than two laser beams (each beam forming a separate spot) and positions the more than two laser beams about the energy zone to visibly outline the periphery of the energy zone to be measured by the radiometer.

Claim 13 does not claim the beams identifying the position and size of the zone.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the beams identify the position and size of the zone since the 'periphery' of the energy zone that is visibly outlined on the surface also inherently identifies the position and size of the zone from which the temperature is measured by the radiometer.

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14. Claim 68 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of the '392 patent, as applied to claim 66 above, and further in view of Schmidt.

Claim 13 claims a device having all of the limitations of claim 68, as stated above in paragraph 13, except for two or more of the more than two beams being arranged with a central spot forming the more than two (at least three) beam pattern.

Schmidt discloses a laser thermometer device comprising an IR detector, an optical system, and a sighting arrangement comprising a laser and a diffraction optical system having a diffraction optical lens that splits a beam and is aligned to be illuminated by a single laser beam from the laser to emit more than two divergent beams to produce a pattern on the measurement spot in the form of a light intensity distribution which includes a 0th order spot at the center of the measurement spot and a visible laser ring of spaced apart light spots displaced from the center point, a beam splitter positioning the circle for identifying and outlining the position, size, and edge of the field of view on the measurement spot by display of visible light including the center spot of the measurement spot to facilitate sighting.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that two or more of the more than two beams being arranged with a central spot forming the more than two (at least three) beam pattern, as taught by Schmidt, since Schmidt teaches that it is useful to make the beams also form a spot at the center of the zone to facilitate sighting.

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15. Claim 67 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 13 of the '392 patent in view of claim 1 of the '398 patent.

Claim 13 of the '392 patent claims a laser sighting device (i.e., a laser aiming system) for use in conjunction with a radiometer (which is a radiation detector) for visibly outlining the energy zone on a surface whose temperature is to be measured by the radiometer. The laser sighting device cooperates with the radiometer and emits more than two laser beams against the surface (which forms a light intensity distribution pattern of laser light spots). The laser sighting device uses a splitter (which is an optical means) that receives (is illuminated by) a laser beam and splits the laser beam into the more than two laser beams (each beam forming a separate spot) and positions the more than two laser beams about the energy zone to visibly outline the periphery of the energy zone and field of view of the radiometer.

Claim 13 does not claim the more than two laser beams being divergent and forming a ring pattern to outline the edge of the field of view.

Claim 1 of the '398 patent claims a device for measuring temperature comprising a laser sighting device and a radiometer together in a hand-held common support, wherein the laser sighting device has a laser generator for providing a laser beam to an optical means that converts the beam into a display pattern of multiple laser beams that are fanned out (i.e. divergent) from the optical means to visually indicate on a target surface the location from which the radiometer detects radiation.

Referring to claim 67, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13 by claiming that the more than two laser

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beams are divergent, as claimed in claim 1, since claim 1 teaches that providing divergent laser beams is useful for indicating the periphery of an energy zone to be measured by a radiometer.

Referring to claim 69, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify claim 13/claim 1 by claiming that the beams form a ring that outlines the edge of the zone, since the 'periphery' of the energy zone that is visibly outlined on the surface form a ring that outlines the edge of the zone from which temperature is measured by the radiometer.

Claim Rejections - 35 USC § 102

16. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

17. Claims 53-55, 60-63, 66, and 68 are rejected under 35 U.S.C. 102(e) as being anticipated by Schmidt.

Schmidt discloses a laser thermometer device comprising:

a detector having a field of view and receiving heat radiation emanating from a measurement spot on an object of measurement;

an optical system for imaging heat radiation emanating from the spot onto the detector;

and

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a sighting arrangement comprising a laser and a diffraction optical system having a diffraction optical element that splits a beam and is aligned to be illuminated by a single laser beam from the laser to emit more than two divergent beams to produce a pattern on the measurement spot in the form of a light intensity distribution which includes a 0th order spot at the center of the measurement spot and a visible laser ring of spaced apart light spots displaced from the center point, a beam splitter positioning the circle for identifying and outlining the position, size, and edge of the field of view on the measurement spot by display of visible light including the center spot of the measurement spot to facilitate sighting.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claim 49-52, 56-59, 64, and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt in view of U.S. Patent 4,315,150 to Darringer et al [hereinafter Darringer].

Schmidt discloses a non-contact temperature measurement instrument comprising the combination of an IR radiation detector (1) and a laser aiming system (5) for aiming the detector, wherein the detector has a field of view, and the system includes a laser and optical means including a diffraction lens that converts a single laser beam from the laser into a visible display of more than two separated laser light spots in a concentric pattern on a target surface to indicate the location, edge, and size of the field of view on a target surface from which the IR radiation is

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detected by the detector, and also converts the single laser beam into a spot of laser light at the center of the display.

Schmidt does not disclose that the IR detector and the laser aiming system are mounted on a common support.

Darringer discloses a temperature measurement device comprising an IR detector and a laser aiming system for projecting a light beam pattern and aiming the device at a target surface. The device has the laser aiming system and the IR detector mounted on a hand-held common support to facilitate aiming the device at the target surface when measuring temperature.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the instrument disclosed by Schmidt by mounting the IR detector and the laser aiming system on a common support, as taught by Darringer, in order to facilitate aiming the instrument at the surface when taking temperature measurements.

Allowable Subject Matter

20. Claims 67 and 69 would be allowable upon the filing of a terminal disclaimer in compliance with 37 CFR 1.321(c).

21. The following is a statement of reasons for the indication of allowable subject matter:

The prior art of record does not disclose or suggest the following in combination with the remaining limitations of the claims:

A laser directed temperature measurement device comprising a laser and a beam splitter illuminated by a beam from the laser and emitting more than two divergent laser beams forming

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a pattern of visible spots mutually spaced apart to indicate the field of view of the detector
(independent claim 67).

Conclusion

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mirellys Jagan whose telephone number is 571-272-2247. The examiner can normally be reached on Monday-Thursday from 8AM to 4PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diego Gutierrez can be reached on 571-272-2245. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MJ
March 23, 2004



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